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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,387	03/28/2001	Steve Wai Leung Yeung	25821P031	3593

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EXAMINER	
KUMAR, SRILAKSHMI K	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/821,387	YEUNG, STEVE WAI LEUNG	
	Examiner	Art Unit	
	Srilakshmi K. Kumar	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The following is in response to the request for continued examination filed on May 2, 2006. Claims 1-6 are pending with claim 1 currently amended and claims 7-9 cancelled.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirakata (US 6,496,172).

As to independent claim 1, Hirakata discloses a method for driving an LCD including providing an LCD with a plurality of column lines (signal line 1 to signal line 6), a plurality of rows (scanning line A to scanning line D), and a plurality of pixels (111). Hirakata teaches a well known driving the LCD by a multiple pixel inversion technique (e.g., frame inversion shown in Fig. 15A) including the step of applying signals of a same polarity to a portion of n x m pixels (col. 10, lines 47-55) pixel matrix where (n) is an integer from two to a number of scan lines (i.e. 4 scan lines) and (m) is an integer from two to a number of column lines (i.e. 6 column lines), the applied signals to provide a reduced total fringe field effect to maintain contrast and to minimize display flickering (i.e. tone of a display image is clear, the flicker does not become noticeable at about 60H) (see column 9, lines 1-6). Thus, the inversion method of Figures 15 of Hirakata read on the claimed minimized display flickering and reduced fringe field effect even

driving at 30Hz frequency. The claim does not require 60 Hz frequency driving. It reads on broad claim language.

As to dependent claim 2, limitations of claim 1, and further comprising, Hirakata discloses wherein multiple inversions are adjustable (Figs. 15). The claim "multiple inversion are adjustable" is broad enough to read on the frame inversion of Hirakata either positive or negative in a whole frame in Fig. 15A or inversion each gate line in each frame in Fig. 15B.

As to dependent claim 3, limitations of claim 1, and further comprising, Hirakata clearly teaches the method being applied to one of an actively driven miniature TFT LCD and a reflective liquid crystal on silicon LCD (i.e. camera, cell phone, see Figs. 22A-F).

As to dependent claim 6, limitations of claim 1, and further comprising, Hirakata discloses wherein multiple pixel inversion is applied for two or more consecutive frames as shown in Fig. 15A.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirakata as applied to claim 1, above, and further in view of Hashimoto et al (US 6,295,043).
As to dependent claims 4 and 5, Hirakata does not disclose wherein there is simultaneous inversion of one of a plurality of columns, rows and pixels of an LCD and where the plurality

comprises two. Hashimoto teaches a well known method of inverting two rows simultaneously (Figs. 13A and 13B). That is g2-g3 are applied positive polarity and g4-g5 are applied negative polarity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of inverting two rows simultaneously as taught by Hashimoto to the pixel inversion of Hirakata so as to avoid flicker (see col. 3, lines 18-41 of Hashimoto).

Response to Arguments

5. Applicant's arguments filed May 2, 2006 have been fully considered but they are not persuasive.

Applicant argues where the prior art Hirakata does not disclose "a multiple pixel inversion technique comprising; applying signals of a same polarity to a portion of n x m pixel matrix". Examiner, respectfully, disagrees. Hirakata discloses in col. 9, lines 42-61 and col. 10, lines 47-55 wherein the same polarity is applied to a portion of n x m pixels, i.e. to pixels in columns 1 and 2 and 5 and 6. Therefore the prior art Hirakata discloses where the same polarity is applied to a portion of n x m pixels. Thus, the rejection of the claims set forth in the instant application is maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 571 272 7769. The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571 272 3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Srilakshmi K. Kumar
Examiner
Art Unit 2629

SKK
July 21, 2006

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER